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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,939	01/10/2001	Jennifer Lu	5075-0028	9598
23980	7590	03/23/2006	EXAMINER	
REED INTELLECTUAL PROPERTY LAW GROUP 1400 PAGE MILL ROAD PALO ALTO, CA 94304-1124			MAGEE, CHRISTOPHER R	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/758,939	LU ET AL.	
	Examiner	Art Unit	
	Christopher R. Magee	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 January 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-27 and 40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-27 and 40 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/12/2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

• Claims 1-6, 10-16, 22 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Zheng et al. (hereinafter Zheng) (US 6,870,707 B1).

Regarding claims 1-4, 14-16, 22 and 40, Zheng discloses a method for producing a transducer slider having at least one tapered edge or rounded corner [col. 4, lines 54-55], comprising:

(a) coating a substrate with a radiation-sensitive layer [col. 9, lines 17-18];

(b) imagewise exposing the radiation-sensitive layer to radiation according to an intensity pattern having a gradient conforming to said at least one tapered edge, said intensity pattern enabling specific levels of removal of portions of the radiation sensitive layer corresponding to the specific intensity pattern used [col. 9, lines 19-29];

(c) developing the image into the radiation-sensitive layer [col. 9, lines 30-37]; and

(d) transferring the image into the substrate to form a transducer slider having a surface profile comprising said at least one tapered edge or a rounded corner as provided by the specific intensity pattern [Figs. 3A-E and 4A-C].

Regarding claim 5 and 6, Zheng teaches the radiation-sensitive layer is a positive resist [col. 6, lines 6-11].

Regarding claim 10, Zheng discloses the radiation has an ultraviolet wavelength [col. 6, lines 1-5].

Regarding claims 11-13, Zheng discloses the intensity pattern being provided using a grayscale mask [col. 6, lines 32-42].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- Claims 7, 8, 17-19 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al. (hereinafter Zheng) (US 6,870,707 B1) as applied to claim 1 above, and further in view of Hira et al. (hereinafter Hira) (US 5,910,864).

Regarding claims 7 and 8, Zheng discloses all the features, *supra*, but does not teach or suggest the radiation sensitive layer (i.e., grayscale mask) has a thickness of about 1 to 20 μm . Hira teaches the radiation sensitive layer has a thickness of about 1 to 20 μm [col. 12, lines 36-38 ; col. 13, lines 11-20].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture the radiation sensitive layer thickness of Zheng with the thickness as taught by Hira.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to manufacture the radiation sensitive layer thickness of Zheng with the thickness as taught by Hira in order to eliminate a residual redeposition layer [Hira; col. 13, lines 21-28].

Regarding claims 17-19, Zheng discloses all the features, *supra*, but does not teach or suggest the etchant comprises an Argon based gas [col. 7, lines 27-30]. Hira discloses the etchant comprises an Argon based gas [col. 27, lines 45-49].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the etchant of Zheng with an Argon based etchant as taught by Hira.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to provide the etchant of Zheng with an Argon based etchant as taught by Hira in order to process a material of a small etching rate (e.g., a ceramic or a high dielectric) in a short time, accurately, safely and easily [Hira; col. 30, lines 33-38].

Regarding claims 23-27, Zheng discloses all the features, *supra*, but does not teach or suggest the substrate comprises a ceramic material. Hira teaches the substrate comprises a ceramic material [col. 23, lines 33-39].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the substrate of Zheng with a ceramic material as taught by Hira.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to provide the substrate of Zheng with a ceramic material as taught by Hira in order to give a small dimensional shift, making it possible to form magnetic head rails of high dimensional accuracy [Hira; col. 9, lines 51-55].

- Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al. (hereinafter Zheng) (US 6,870,707 B1) as applied to claim 1 above and further in view of Dickinson, Jr. (hereinafter Dickinson) (US 6,350,506).

Regarding claim 9, Zheng disclose all the described features, *supra*, but do not teach or suggest the radiation is photonic.

Dickinson teaches exposing a surface to laser radiation that is monochromatic radiation, which results from photon stimulated emission, i.e., photonic radiation [col. 1, lines 40-47; col. 4, lines 55-63].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the radiation of Zheng with photonic radiation via a laser as taught by Dickinson.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to substitute the radiation of Zheng with photonic radiation via a laser as taught by Dickinson in order to maintain close dimensional control [Dickinson; col. 2, lines 25-28].

- Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al. (hereinafter Zheng) (US 6,870,707 B1) as applied to claim 1 above and further in view of Yoshida et al. (Yoshida) (US 5,331,495).

Regarding claims 20 and 21, Zheng disclose all the described features, *supra*, but do not teach or suggest the enchant comprises a liquid.

Yoshida teaches a resulting mask pattern is subjected to wet treatment by a liquid etchant for patterning [col. 8, lines 64-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to expose the substrate of Zheng with a liquid etchant as taught by Yoshida.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to expose the substrate of Zheng with a liquid etchant as taught by Yoshida in order to achieve a stable lift off and with the least changes in the substrate profile [Yoshida; col. 5, line 66 to col. 6, line 2].

Response to Arguments

4. Applicant's arguments with respect to claims 1-27 and 40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Magee whose telephone number is (571) 272-7592. The examiner can normally be reached on M-F, 8: 00 am-4: 30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Patent Examiner
Art Unit 2627

March 17, 2006
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